



# DOE AGENCY DAY

August 2, 1999

## CIOUpdate



United States Department of Energy

CIO Update 1

### Overview

On July 14, 1999, the Office of the CIO and the Armed Forces Communications and Electronics Association (AFCEA) jointly sponsored a **Department of Energy (DOE) Agency Day** to bring together representatives from across the DOE Complex and information technology industry professionals for an overview of the Department's Information Technology (IT) initiatives. The event took place at the Ronald Regan building in Washington, DC. **Deputy Secretary of Energy T.J. Glauthier** delivered the keynote address to kick off the event, and AFCEA's **General (retired) Norman Wood** provided opening remarks. CIO John Gilligan served as host. **AFCEA** is making conference presentations available via <http://www.afcea.org>. **TVontheWEB** is providing full video coverage of the event at <http://www.tvontheweb.com>.

### CIO's Introduction



CIO John Gilligan hosts DOE Agency Day.

The Department of Energy is responding to information technology-related demands and pressures on many fronts including the following: preparing for the millennium change; tightening Cyber Security; and improving the effectiveness and efficiency of our information system in order to better support the operations of the Department. The Department's missions of National Security, Science and Technology, Energy Security, and Environmental Quality create an organization with diverse information technology needs, unique technological structures, and a culture that spans government, industry, academia, and military entities.

With the rapidly increasing role of information technology in performing all missions within the Department, it is important that we focus specific attention to the planning and development of our information systems. Moreover, our needs to interoperate and perform missions efficiently motivate the Department to

look for the most effective solutions available. In order to do this, we need to attract the best and the brightest information technology experts to help us accomplish our mission objectives.

The Office of the CIO recently partnered with AFCEA to conduct DOE Agency Day. This event allowed the Department to showcase its present and future information technology initiatives with approximately 300 industry representatives representing many of the world's leading designers, planners, manufacturers, testers, and users of information technology. These professionals and the organizations they represent have the potential to work with us to leverage the changes we are facing into a bright, productive future. DOE Agency Day was important because it brought us together with potential partners and allowed us to share information regarding our information technology needs and plans for the future. The expected benefit from this session is a much broader segment of industry that will be better prepared to support our requirements and help guide us to effective solutions.

John M. Gilligan

Chief Information Officer, Department of Energy

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### DOE - The Technical Perspective

#### Highlights from CIO John Gilligan's presentation

Within the Department's diverse business environment, Information Technology (IT) is the key to performing the main lines of business in an integrated, secure, and efficient manner. Annual IT investment is approximately \$1.6 billion to support the Department's business lines. Close to 80% of the spending is done at Field locations.

Currently, we are engaged in an effort to modernize our corporate systems leading to an integrated approach to managing financial, human resources, training-on-the-desktop, and procurement information. We have initiated a four-phase approach to making infrastructure and telecommunications improvements to support corporate systems. These improvements will provide high speed access to corporate and data applications, serve as a Departmental Intranet, increase the

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## Cyber Security:

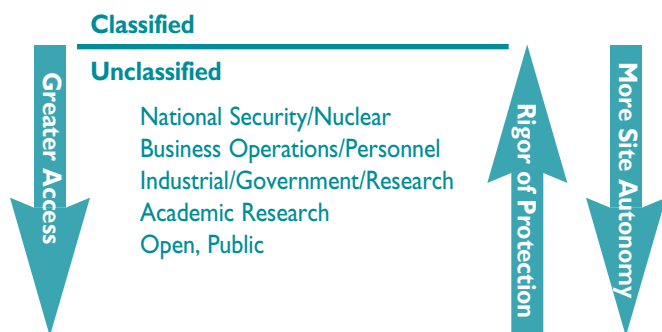
### Highlights from Remarks by CIO John Gilligan

Cyber Security is an area of national concern. The Office of the CIO is developing and implementing a comprehensive approach to improving and sustaining a high-level of awareness and practice in this area. The approach will mesh with the diverse nature of Departmental business lines, providing a “thin” formal policy fortified with adequate guidance yet agile enough to accommodate changing threats and rapidly evolving technology. It will include technical advisory groups and will view Site Plans as the foundation for implementation. Desired results are: effective and consistent policies and guidance; comprehensive security systems across the DOE-complex that are linked and monitored centrally; trained personnel at all levels.

Over the initial 6-month period, a rapid training initiative will get personnel up to speed and educate administrators and managers about their respective roles and responsibilities. A comprehensive training program, with mobile training teams deployed across the Department, will establish and sustain a high level of awareness and practice for all employees. This initiative will address threat and countermeasure training. This effort will leverage existing materials and develop multimedia training materials.

Counterintelligence capabilities will be deployed, first to defense laboratories, and then to all DOE sites. In FY 1999, a counterintelligence pilot at the defense laboratories will concentrate on intrusion detection, firewalls, and incident reporting. It will address staffing at sites and DOE Computer Incident Advisory Capability (CIAC) participation. In FY 2000 - 2001, we will continue rapid fielding to support counterintelligence efforts. Comprehensive security mechanisms will be put into place and we will establish a consistent architecture, reporting, and monitoring approach. We will establish an intrusion assessment, warning, and response capability, and CIAC will be established as the DOE security hub.

### “Interoperability Clusters” Ensure Consistent Security Enforcement



Interoperability Clusters provide a layered approach to cyber security.

“Interoperability clusters” will provide a “layered” approach to security. Within these clusters, information will be categorized by the traditional classified versus unclassified levels, but within the unclassified arena, layers will acknowledge security levels for national security and nuclear; business operations and personnel; industrial and government research; academic research; and information that is open to the public.

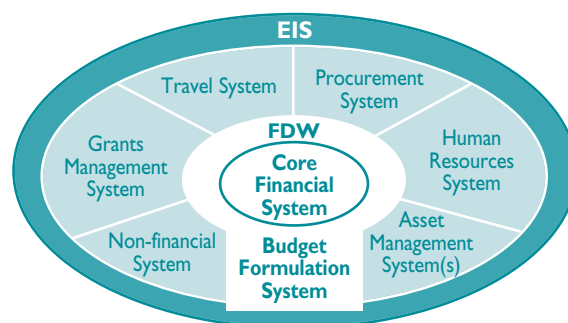
This layered approach will allow us to provide different levels of protection and access to secure the Department’s information resources where necessary and ensure that the public has adequate access to relevant information. DOE Sites will have increased autonomy in dealing with information at the lower levels, while the upper levels will have more rigorous protection.

## Departmentwide IT Initiatives:

### A Panel Discussion moderated by CIO John Gilligan

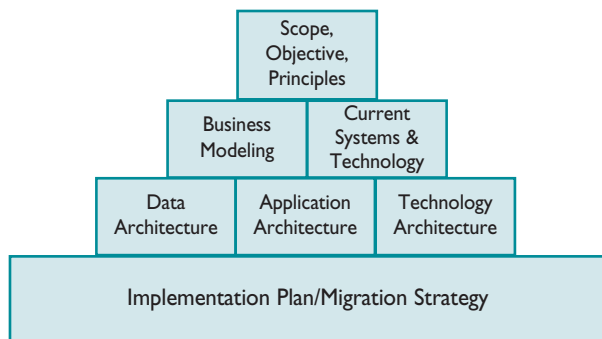
**Warren Huffer**, Director, Office of Corporate Financial Systems, discussed the Business Management Information System (BMIS) initiative which will consolidate core Departmental financial functions for general ledger, payment, receipt, budget execution, and cost management and reporting. The core financial data warehouse (FDW) will contain the core financial and budget formulation systems. The new environment will consolidate core financial systems functions with other corporate systems and create an executive information system (EIS) for accessing information about grants management, travel, procurement, human resources, asset management, and other non-financial systems. The initial development steps have focused on creating a business case for BMIS, identifying information needs, and making recommendations for process improvement.

#### Business Management Information System



BMIS will consolidate core Departmental financial functions.

**Michael Tiemann**, Director, Architecture and Standards Division, described the current multi-year information architecture initiative for corporate systems and program areas. Creation of an architected environment begins by asking the right questions: What business functions are supported by what information stored and processed in the form of what data from what applications running in what technology environments? What Departmental technology infrastructure capabilities and standards are required to support the collective needs of “all” business area systems in a cost effective manner? It is important that the Departmental architecture serve as a foundation for program area architectures to promote commonality while allowing for the unique needs and missions of the program areas. The methodology being used in DOE, developed by Dr. Steven Spewak, addresses principles, current systems baseline, data and business modeling, applications and technology architectures, and a migration plan.



The “Wedding Cake” illustrates Dr. Spewak’s architecture methodology.

**Midge Vivian**, Chief Information Officer and Director of Financial Services, Idaho Operations Office, presented The Perspective From the Field and the challenges in building an information infrastructure that is “as big as Mount Everest, secure as Fort Knox, reliable as the sunrise, with leading edge functionality, excellent return on investment, and implemented faster than a speeding bullet.” The Headquarters architecture and software development methodologies will help make this possible, as will additional technical standards for hardware and software, implementation of modern corporate systems, and an upgraded business information network. It is important not to take funding away from mission goals and to ask contractors to recommend multiple options so that a balance can be achieved between costs and results.



Midge Vivian, CIO and Director of Financial Services at Idaho Operations Office.

## DOE’s New Business Model:

**A Panel Discussion Moderated by Stephen Mourninghan, Director, Office of Management Systems, Office of Procurement and Assistance Management**

The Department’s traditional Management and Operations (M&O) structure has shifted to Management and Integration (M&I) in the performance of environmental restoration and management and site cleanup contracts. Under an M&O, one large contract provides all personnel and services necessary to accomplish the site’s mission. Under an M&I, work is divided among many subcontractors with the prime contractor providing management of the overall effort. M&I will not replace M&O, but in instances where it is introduced, it may bring profound culture changes and drastically restructured operations.

**Frank Armijo**, Lockheed Martin Services, Inc., Office of the Director of Hanford Programs discussed the pros and cons of M&O and M&I contracting based on Hanford’s experiences in

making the transition from being a production site to being an environmental restoration site. With transition, Lockheed fulfills two missions: providing support services to DOE Richland Operations, and developing non-Hanford business to create jobs and diversify the local economy. Challenges have included providing a single, integrated direction for the Hanford site, making culture changes, managing multiple companies, and meeting economic development requirements. The transition has won strong community support, and fostered the introduction of industry best practices.

**Miller Taylor**, Manager, Information Technology, Bechtel Jacobs Company LLC at Oak Ridge Operations Office spoke about how Oak Ridge has made the transition to M&I contracting. Oak Ridge Operations is comprised of three facilities in three states. Under M&O, Information Technology (IT) services are usually a core capability, with the bulk of services being performed by internal staff with subcontractors used to augment staff short-term. Typically, M&O contracting is based on time and materials. Under M&I at Oak Ridge, IT services are no longer a core capability, and all IT is outsourced. M&I contracting is typically based on fixed-price or fixed-unit rate. The switch to M&I has been challenging in terms of subcontracting for IT services, shrinking the IT “footprint,” and changing corporate culture.

**Doug Hintze**, Director of Information Management and Technology at the Savannah River Operations Office, discussed how M&O contracting works at his site. Savannah River is a government-owned, contractor-operated (GOCO) site led by Westinghouse Savannah River Company. Savannah River’s missions are 90% environmental management and restoration with defense programs and research and development work. Savannah River’s IT objectives include aligning IT resources to site missions, integrating business processes, aligning capabilities for better price and performance, implementing enabling technologies, making quality improvements, and supporting and leveraging DOE Corporate IT initiatives. Savannah River views M&O strengths as having unified direction, standardization, and flexibility.



Panelists (l to r) Stephen Mourninghan, Frank Armijo, Miller Taylor and Doug Hintze discuss M&O and M&I contracting.

## DOE - The Business Perspective

**Highlights from a presentation by Edward R. Simpson, Procurement Analyst, Office of Procurement and Assistance Management**

The way DOE does business is changing. The National Performance Review, Departmental initiatives, and the emergence of Management and Integration (M&I) contract vehicles, have contributed to profound changes in how the Department performs its procurement functions. New themes are emerging in which procurement becomes an efficient way to accomplish the objective, and not an end in itself. New tools speed up the process. The inertia of the past is being overcome, and a long-term view of requirements is coming into focus.

DOE accomplishes its mission via contractors, with decentralized buying activities across the Department, making it the largest civilian buyer. In this environment, the challenge has been to find ways to fully leverage that buying power.

A number of initiatives have re-shaped the procurement process. Contract reform initiatives in response to the National Performance Review led to 48 recommendations for improvements. New initiatives implemented a "Make/Buy", discipline where Management and Operations (M&O) contracts became more competitive. The elimination of the "Federal norm" which forced contractors to mirror the Federal structure, led to greater business efficiencies and a common sense, streamlined approach to buying. Integrated Contractor Purchasing Teams included both contractors and Federal employees and explored the cost-saving advantages of consortium buying. By eliminating before General Accounting Office as a forum for commercial contract disputes, the process became more efficient.

## DOE - The R&D Side

**Kimberly Rasar**, on detail from the Oak Ridge National Laboratory to the Office of Science for the Scientific Simulation Initiative (SSI) presented information on the Department's commitment to Information Technology for the 21st Century. Long-term technology research ultimately may lead to advanced applications with the potential to vastly improve quality of life. Advanced applications may reduce the time it takes to develop life-saving drugs; help in designing cleaner, more efficient engines; or more accurately predict tornadoes. Part of the Department's commitment to the future is developing computational simulation capabilities to solve scientific and engineering problems of extraordinary complexity. DOE is participating in developing a national terrascale distributed scientific simulation infrastructure. This infrastructure has the potential to dramatically advance our understanding of the fundamental properties of matter and to positively impact solutions for critical engineering problems.

## DOE - The Technical Perspective continued from page 1

protection of proprietary data, and support client/server browser-based applications at reduced long-term cost.

Departmental initiatives at the national-level have the potential to improve national security and scientific research and development. Via the Accelerated Strategic Computing Initiative (ASCI), the Department is supporting the Comprehensive Test Ban Treaty and nuclear Stockpile Stewardship. ASCI will provide the advanced computational and simulation capabilities for effective management of the nuclear stockpile. ASCI will facilitate the Department's ability to predict the behavior and extrapolate the performance of the nuclear weapons stockpile without underground testing.

The Next Generation Internet (NGI) Program supports data intensive and collaborative computing, ensuring that the underlying technologies are developed, integrated and tested on DOE mission applications, and that the necessary tools that emerge can be used by DOE researchers. NGI will be part of a nationwide network to support scientific instruments, experimental facilities with petabyte computing capabilities, shared virtual environments, terrascale simulations, and other applications. DOE will spend approximately \$15 million this year on NGI.

Cyber Security has recently claimed the national spotlight, and the task falls to the Office of the CIO to launch a comprehensive initiative addressing policy, awareness, education related to the individual's responsibilities, a set of security capabilities, and robust review and monitoring of security. The Department's complexity in terms of diversity of programs, technologies, missions, and varying levels of information access ranging from highly classified to publicly available will make Cyber Security a challenge.

In response to the Clinger-Cohen Act, we have put into place a capital planning and information technology investment process to bring IT planning into the Departmental budgetary process. This process will help link IT investment decisions to strategic objectives.



# DynCorp

DOE Agency Day was sponsored by the Armed Forces Communications and Electronics Association, International (AFCEA), in cooperation with the Department of Energy. TVontheWeb covered the event and is providing video on its website on [www.tvontheweb-live.com](http://www.tvontheweb-live.com). TVontheWeb graciously provided photographs for this publication. DynCorp was the corporate sponsor.